

Applicant: Zuniga et al.
Application No.: 10/622,681

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for reassigning codes of an orthogonal variable spreading factor (OVSF) code tree ~~in a code division multiple access communication system~~, the code tree having a plurality of codes at differing spreading factors and having a plurality of branches between the codes of different spreading factors, if a particular code of the code tree is assigned, a lower spreading factor code of the code tree connected to that code by one of the branches is blocked from assignment, if a code of the code tree is blocked, a code of the tree of a lower spreading factor connected to that code by one of the branches is blocked from assignment, the method comprising:

for each spreading factor, starting at a first spreading factor:

(a) determining selected assigned codes of that spreading factor that can be reassigned to other codes of that spreading factor in a desired direction of the code tree; and

(b) reassigning the selected assigned codes to the other codes; and

(c) ~~for each other spreading factor, repeating steps (a) and (b).~~

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2. (Original) The method of claim 1 wherein the other codes are within a same time slot as the selected codes.

3. (Original) The method of claim 1 wherein at the least one of the other codes is in a different time slot than the selected codes.

4. (Currently Amended) The method of claim 1 wherein ~~steps (a) and (b) said determining and said reassigning~~ are only performed if under a threshold number of codes are blocked in a time slot.

5. (Original) The method of claim 1 wherein a number of the reassigned codes is limited.

6. (Original) The method of claim 1 wherein the first spreading factor is a highest spreading factor.

7. (Currently Amended) A radio network controller (RNC) having a radio resource management device, the radio resource management device having a memory for storing a representation of an orthogonal variable spreading factor (OVSF) code tree, the code tree having a plurality of codes at differing spreading

factors and having a plurality of branches between the codes of different spreading factors, if a particular code of the code tree is assigned, a lower spreading factor code of the code tree connected to that code by one of the branches is blocked ~~from~~ from assignment, if a code of the code tree is blocked, a code of the tree of a lower spreading factor connected to that code by one of the branches is blocked from assignment, the radio resource management device ~~capable of performing steps~~ comprising configured to:

for each spreading factor, starting at a highest spreading factor and proceeding to each successively smaller spreading factor:

(a) ~~determining~~ determine selected assigned codes of that spreading factor that can be reassigned to other codes of that spreading factor in a desired direction of the code tree; and

(b) ~~reassigning~~ reassign the selected assigned codes to the other codes; and

(c) ~~for each lower spreading factor in sequence, repeating steps (a) and (b).~~

8. (Original) The RNC of claim 7 wherein the other codes are within a same time slot as the selected codes.

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9. (Original) The RNC of claim 7 wherein at the least one of the other codes is in a different time slot than the selected codes.

10. (Currently Amended) The RNC of claim 7 wherein ~~steps (a) and (b) are the radio resource management device is configured to determine selected assigned codes and reassign the selected assigned codes only performed if under a threshold number of codes are blocked in a time slot.~~

11. (Original) The RNC of claim 7 wherein a number of the reassigned codes is limited.

12. (Original) The RNC of claim 7 wherein the representation of the code tree is stored as a vector.

13. (Original) The RNC of claim 12 wherein the vector includes an element for each code of the code tree in sequence.

14. (Currently Amended) The RNC of claim 13 wherein all the ~~element~~ elements of codes having a same spreading factor are contiguous.

15. (Original) The RNC of claim 13 wherein each element has two bits, one bit of the two bits indicating whether the code of that element is blocked and another bit of the two bits indicating whether one or multiple codes are blocked by the code of that element.

16. - 22. (Canceled)

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23. (Original) A method for indicating code availability for codes in an orthogonal variable spreading factor (OVSF) code tree for use in code allocation, the method comprising:

assigning each code an indicator, the indicator having two bits, a first of the two bits indicating whether the code is blocked by use of another code and a second of the two bits indicating whether the code is blocked by one or two codes.

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24. (Original) The method of claim 23 wherein the first bit having a value of 0 indicates that the code is not blocked and the first bit having a value of 1 indicating that the code is blocked and the second bit having a value of 0 indicating that the code is blocked by one code and the second bit having a value of 1 indicating that the code is blocked by two codes.